查询SY100EL57ZGTR供应商

4:1 DIFFERENTIAL MULTIPLEXER

SY10EL57
SY100EL57

FEATURES

- **Useful as either 4:1 or 2:1 multiplexer**
- **V_{BB} output for single-ended operation**
- **75KΩ internal input pulldown resistors**
- **Available in 150 mil 16-pin SOIC package**

DESCRIPTION

The SY10/100EL57 are fully differential 4:1 multiplexers. By leaving the SEL1 line open (pulled LOW via the input pulldown resistors) the device can also be used as a differential 2:1 multiplexer with SEL0 input selecting between D0 and D1. The fully differential architecture of the EL57 makes it ideal for use in low skew applications such as clock distribution.

The SEL1 is the most significant select line. The binary number applied to the select inputs will select the same numbered data input (i.e., 00 selects D0).

Multiple V_{BB} outputs are provided for single-ended or AC coupled interfaces. In these scenarios, the V_{BB} output should be connected to the data bar inputs and bypassed via a 0.01µF capacitor to ground. Note that the V_{BB} output can source/sink up to 0.5mA of current without upsetting the voltage level.

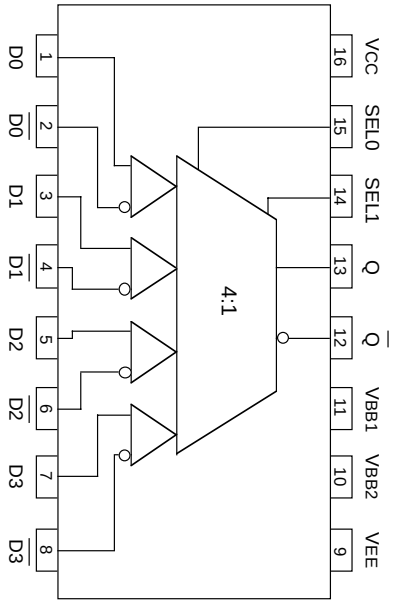
TRUTH TABLE

SEL1	SEL0	DATA OUT
L	L	D0
L	H	D1
H	L	D2
H	H	D3

PIN NAMES

Pin	Function
D0-3	Differential Data Inputs
SEL0, 1	Mux Select Inputs
$V_{BB1, 2}$	Reference Outputs
Q	Data Outputs

PACKAGE/ORDERING INFORMATION



16-Pin SOIC (Z16-1)

Ordering Information[1]

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10EL57ZC	Z16-2	Commercial	SY10EL57ZC	Sn-Pb
SY10EL57ZCTR[2]	Z16-2	Commercial	SY10EL57ZC	Sn-Pb
SY100EL57ZC	Z16-2	Commercial	SY100EL57ZC	Sn-Pb
SY100EL57ZCTR[2]	Z16-2	Commercial	SY100EL57ZC	Sn-Pb
SY10EL57ZI	Z16-2	Industrial	SY10EL57ZI	Sn-Pb
SY10EL57ZITR[2]	Z16-2	Industrial	SY10EL57ZI	Sn-Pb
SY100EL57ZI	Z16-2	Industrial	SY100EL57ZI	Sn-Pb
SY100EL57ZITR[2]	Z16-2	Industrial	SY100EL57ZI	Sn-Pb
SY10EL57ZG[3]	Z16-2	Industrial	SY10EL57ZG with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY10EL57ZGTR[2, 3]	Z16-2	Industrial	SY10EL57ZG with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL57ZG[3]	Z16-2	Industrial	SY100EL57ZG with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL57ZGTR[2, 3]	Z16-2	Industrial	SY100EL57ZG with Pb-Free bar-line indicator	Pb-Free NiPdAu

Notes:

1. Contact factory for die availability. Dice are guaranteed at T_A = 25°C, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

ABSOLUTE MAXIMUM RATINGS[1]

Symbol	Rating	Value	Unit
V_{EE}	Power Supply (V_{CC} = 0V)	–8.0 to 0	V
V_{IN}	Input Voltage (V_{CC} = 0V)	0 to -6.0	V
I_{OUT}	Output Current - Continuous - Surge	 50 100	mA
T_{LEAD}	Lead Storage Temperature	+260	˚C
T_A	Operating Temperature Range	-40 to +85	˚C
V_{EE}	Operating Range[1, 2]	-5.7 to -4.2	V

Notes:

1. Absolute maximum ratings, beyond which, device life may be impaired, unless otherwise specified on an individual data sheet.
2. Parametric values specified at: 5 volt Power Supply Range 100EL57 Series: -4.2V to -5.5V.
   10EL57 Series -4.75V to -5.5V.

10EL DC CHARACTERISTICS

$V_{EE} = V_{EE}$ (Min) - V_{EE} (Max); V_{CC} = GND[1]

Symbol	Parameter	T_A = -40˚C		T_A = 0˚C		T_A = +25˚C		T_A = +85˚C		Unit
		Min.	Max.	Min.	Max.	MIn.	Max.	Min.	Max.	
V_{OH}	Output HIGH Voltage	-1080	-890	-1020	-840	-980	-810	-910	-720	mV
V_{OL}	Output LOW Voltage	-1950	-1650	-1950	-1630	-1950	-1630	-1950	-1595	mV
V_{IH}	Input HIGH Voltage	-1230	-890	-1170	-840	-1130	-810	-1060	-720	mV
V_{IL}	Input LOW Voltage	-1950	-1500	-1950	-1480	-1950	-1480	-1950	-1445	mV
I_{IL}	Input LOW Current	0.5	—	0.5	—	0.5	—	0.5	—	µA

Note:

1. 10EL circuits are designed to meet the DC specifications shown in the table after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse airflow greater than 500lfpm is maintained. Outputs are terminated through a 50Ω resistor to -2.0V except where otherwise specified on the individual data sheets.

100EL DC CHARACTERISTICS

$V_{EE} = V_{EE}$ (Min) - V_{EE} (Max); V_{CC} = GND[1]

Symbol	Parameter	T_A =-40˚C			T_A =0˚C to 85C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.		
V_{OH}	Output HIGH Voltage	-1085	-1005	-880	-1025	-955	-880	mV	$V_{IN} = V_{IH}$ (Max) or V_{IL} (Min)
V_{OL}	Output LOW Voltage	-1830	-1695	-1555	-1810	-1705	-1620	mV	$V_{IN} = V_{IH}$ (Max) or V_{IL} (Min)
V_{OHA}	Output HIGH Voltage	-1095	—	—	-1035	—	—	mV	$V_{IN} = V_{IH}$ (Min) or V_{IL} (Max)
V_{OLA}	Output LOW Voltage	—	—	-1555	—	—	-1610	mV	$V_{IN} = V_{IH}$ (Min) or V_{IL} (Max)
V_{IH}	Input HIGH Voltage	-1165	—	-880	-1165	—	-880	mV	
V_{IL}	Input LOW Voltage	-1810	—	-1475	-1810	—	-1475	mV	
I_{IL}	Input LOW Current	0.5	—	—	0.5	—	—	µA	$V_{IN} = V_{IL}$ (Max)

NOTE:

1. The same DC parameter values at V_{EE} = -4.5V now apply across the full V_{EE} range of -4.2V to -5.5V. Outputs are terminated through a 50Ω resistor to -2.0V except where otherwise specified on the individual data sheets.

DC ELECTRICAL CHARACTERISTICS

V_{EE} = V_{EE} (Min) - V_{EE} (Max); V_{CC} = GND

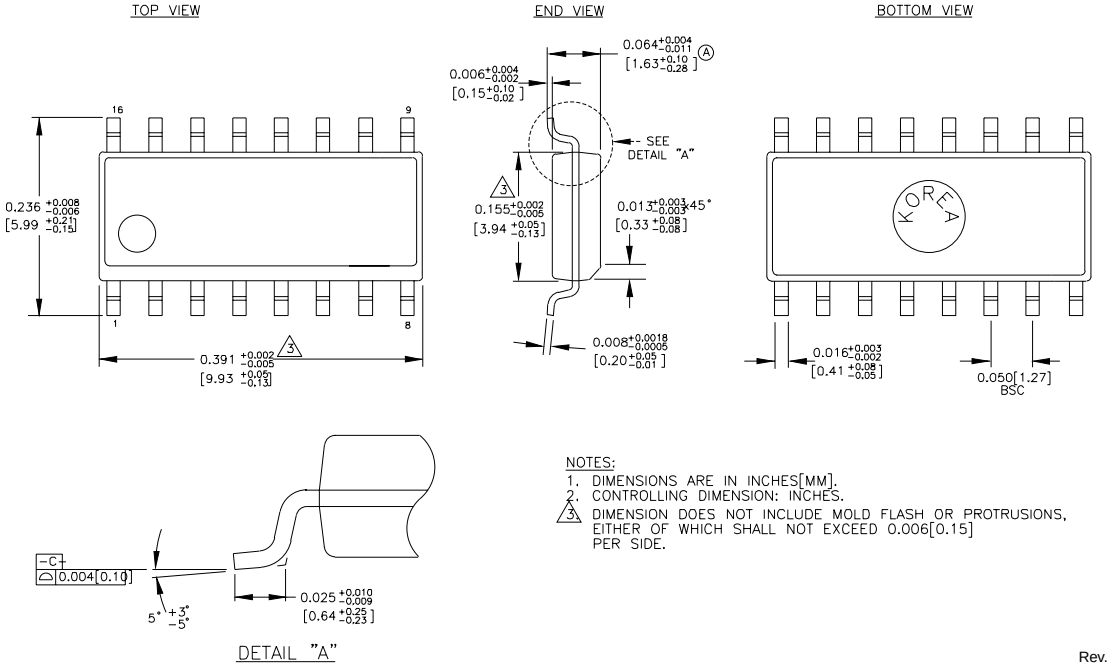
Symbol	Parameter		T_A = -40°C			T_A = 0°C			T_A = +25°C			T_A = +85°C			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I_{EE}	Power Supply Current	10EL	—	15	24	—	15	24	—	15	24	—	15	24	mA
		100EL	—	15	24	—	15	24	—	15	24	—	15	27	
V_{BB}	Output Reference Voltage	10EL	-1.43	—	-1.30	-1.38	—	-1.27	-1.35	—	-1.25	-1.31	—	-1.19	V
		100EL	-1.38	—	-1.26	-1.38	—	-1.26	-1.38	—	-1.26	-1.38	—	-1.26	
I_{IH}	Input HIGH Current		—	—	150	—	—	150	—	—	150	—	—	150	µA

AC ELECTRICAL CHARACTERISTICS

V_{EE} = V_{EE} (Min) - V_{EE} (Max); V_{CC} = GND

Symbol	Parameter	T_A = -40°C			T_A = 0°C			T_A = +25°C			T_A = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
t_{PD}	Propagation Delay													ps
	DATA to Q/$\overline{Q}$	350	—	550	350	—	550	360	—	560	380	—	580	
	SEL to Q/$\overline{Q}$	440	—	690	440	—	690	440	—	690	460	—	710	
t_{skew}	Input Skew DATA to Q	—	—	50	—	—	50	—	—	50	—	—	50	ps
V_{PP}	Minmum Input Swing													mV
	DATA	150	—	—	150	—	—	150	—	—	150	—	—	
V_{CMR}	Common Mode Range													V
	DATA	-2.0	—	-0.4	-2.0	—	-0.4	-2.0	—	-0.4	-2.0	—	-0.4	
tr tf	Output Rise/Fall Times Q (20% - 80%)	125	—	375	125	—	375	125	—	375	125	—	375	ps

16-PIN SOIC .150" WIDE (Z16-2)



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